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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/812,431	03/30/2004	Richard D. Newberry	5004-0023-1-1	3359

35301 7590 12/29/2006
MCCORMICK, PAULDING & HUBER LLP
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EXAMINER

COCKS, JOSIAH C

ART UNIT	PAPER NUMBER
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3749

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/29/2006	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/812,431

Applicant(s)

NEWBERRY, RICHARD D.

Examiner

Josiah Cocks

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 October 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) 7-44 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☒ Claim(s) 1-6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 October 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Receipt of applicant's amendment filed 10/02/2006 is acknowledged.

Election/Restrictions

2. This application contains claims 7-44 drawn to an invention nonelected without traverse in the paper filed 4/24/2006. A complete reply to the final rejection must include cancellation of nonelected claims. See MPEP § 821.01.

Drawings

3. The drawings filed 10/02/2006 are accepted by the examiner.

Claim Objections

4. Claims 1-6 are objected to because of the following informalities:

In claim 1, a combustion flame source is positively recited but the claim does not expressly recite that the combustion flame source actively produces a combustion flame. As the claim later refers to "the combustion flame," it appears clear that applicant intends that the recited combustion flame is produced by the combustion flame source. However, for precision in claim language applicant should amend the claim to recite "the combustion flame source producing a combustion flame."

Allowable Subject Matter

5. Claims 1-6 are allowable over the prior art (note however the claim objections above).

6. The following is a statement of reasons for the indication of allowable subject matter:

In regard to claim 1, in light of the record taken as a whole including applicant's amendment filed 10/02/2006 the prior art is not considered to disclose, teach, or suggest the invention as now recited in claim 1. The reference to Allen (previously relied upon) is considered the closest prior art is considered to show an ultraviolet sensor that is configured to be positioned adjacent a combustion flame source in the combustion chamber of a heating system that generates an analog signal indicative of the quality of a combustion flame from the flame source and a means communicating with the sensor for converting the analog signals into digital signals of the quality of the combustion flame. As recognized in Allen, the chemiluminescence of the flame is affected by the presence of certain radicals generated by the combustion process, which are indicative of flame quality (see Allen, at least abstract, col. 6, lines 1-54 and claim 14). Further, these radicals include carbon dioxide (CO₂) (see at least claim 17). Accordingly, Allen suggests that the analog signals that are indicative of the quality of the combustion flame would include carbon dioxide content.

However, Allen is not considered to show the additional features of a means for performing numerical and logical operations on the digital signals so as to result in data that precisely correlates in a linear fashion with the carbon dioxide content in the combustion gases in further combination with means tracking changes in the flame quality from an initial setup

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optimal value as correlated with the data of carbon dioxide content of the combustion gases as recited.

Claims 2-6 are allowable as being dependent upon allowable claim 1.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Josiah Cocks whose telephone number is (571) 272-4874. The examiner can normally be reached on M-F 8:00-5:30.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

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may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

jcc
October 21, 2006



JOSIAH COCKS
PRIMARY EXAMINER
ART UNIT 3749